

Applicant(s): DOUGLAS E. LECRONE ET AL.
Serial No.: 10/785,614
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E30-046CON

In the Specification

Please replace the paragraph beginning at page 15, line 1 with the following:

The optional LOCAL command anticipates other types of arrangements but has [[only]]been implemented so that only a "LOCAL" value has validity. The "bypass" argument bypasses conventional on-line checks for standard devices on other operating systems, such as other MVS operating systems. The "timeout" argument establishes an interval during which the consistent split must be carried out. In a specific implementation, there is a default value of 15 seconds. This field allows the timeout interval to be reduced.

Please replace the paragraph beginning at page 15, line 19 with the following:

FIG. 3 is an overview of the TF application in address space 32. Initially, step 50 establishes the buffers and data structures including a buffer 51 shown in FIG. 2 for request block (REQB) data structures that control ensuing operations. Step 52 calls a TFINIT initialization procedure. This procedure processes each TF application command, parses that command and produces one or more REQB data structures. If a command defines a range of BCV devices, the TFINIT

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initialization procedure will produce one REQB data structure for each BCV device. When the initialization procedure ends, the buffer 51 shown in FIG. 2 contains a plurality of REQB data structures. FIG. 2 depicts several such REQB data structures including an REQB(n) data structure 54, an REQB(n-1) data structure [[54]]53 and an REQB(n+1) data structure 55 by way of example.

Please replace the paragraph beginning at page 17, line 12 with the following:

The PROCESS SPLIT REQUEST procedure called in step 65 performs three basic operations. First, it prevents any write operations to any of the standard [device]devices involved in the split. In an MVS operating system environment, the PROCESS SPLIT REQUEST procedure requests the MVS operating system to raise the IOS level for each standard device attached to a BCV device in the consistency group. Next the procedure issues the necessary INSTANT SPLIT commands to each of the BCV devices in the group as defined by the sequence number. Third, the system resets the IOS level for each standard device associated in the consistency group. This entire operation occurs in a short time interval and is transparent to an application program interacting with a standard device even when the split involves hundreds of BCV devices. As with the instant split operation

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of United States Letters Patent No. 6,370,626 the management of all the write pending entries occurs after the consistent split has occurred.

Please replace the paragraph beginning at page 18, line 11 with the following:

As previously indicated, the TFINIT initialization procedure 51 converts the commands into a series of commands that can be directed to the DASD-1 data storage controller 21 or the DASD-n storage controller 22 shown on FIG. 1. FIGS. 4 and 5 depict the TFINIT procedure in greater detail as defining a BCVTREQB register 74 and a BCVREQ# register 75 in step 80 in the buffer main memory 26. The BCVTREQB register 74 acts as a pointer to a first location for an REQB data structure in the buffer 51. The BCVREQ# register 75 acts as a counter to identify the number of REQB data structures that are processed during the TFINIT procedure. Step 82 tests other various conditions as may be appropriate for a particular application.

Such conditions form no part of this invention, but are well known to persons of ordinary skill in the art and are omitted.

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Please replace the paragraph beginning at page 21, line 10 with the following:

In essence, the TFINIT initialization procedure [[51]]52 establishes a number of REQB data structures in the buffer [[52]] 51 of FIG. 2 for each BCV device. Each REQB data structure identifies the type of operation, the BCV device that is being controlled and other relevant information. For purposes of this discussion, an INSTANT SPLIT flag 96, CONSISTENT SPLIT flag 101, BYPASS-ON flag 104 and TIMEOUT flag 106 and TIMEOUT value 107 are included in each such REQB data structure. As will now be apparent, this operation occurs in parallel with any interaction between the APPL-1 application 30 and the DASD-1 storage controller 21 particularly the standard devices 40, 41 and 42. Thus changes during the operation of the TF application in address space [[33]]32 attaches and splits BCV devices 43, 44 and 45 transparently.

Please replace the paragraphs beginning at page 22, line 10 through line 22 with the following:

If the INSTANT SPLIT flag 96 for the REQB data structure being analyzed is set, step 122 transfers control to step 123 that calls an INSTANT SPLIT procedure. The INSTANT SPLIT procedure determines whether there are other REQB data structures in the buffer 51 that have the same sequence number

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as established by the sequence number entry `[[123]]123A` in FIG. 2. This assures that multiple INSTANT SPLITS at the same level will be processed in one system calling procedure.

FIG. 7 depicts this INSTANT SPLIT procedure 122 in greater detail. The procedure begins when step 124 retrieves the REQB data structure being processed and `[[the]]then` initializes a command buffer with the MULTIPLE INSTANT SPLIT command as a default value in step 125.

Please replace the paragraph beginning at page 24, line 23 with the following:

When all the remaining REQB data structures in the buffer 51 are examined in this loop, control transfers from step 140 to step 150 that restores the original REQB data structure for further analysis. Step 151 then examines the value in the NUM PAIRS register 127. As previously indicated, in the specific example, 126 initializes the `[[NUM]]NOM` PAIRS register 127 to zero and increments the value to "1" during the analysis of the original REQB data structure. If any of the next REQB data structures pass the test of steps 130 through 146, the value is incremented. Thus if the value in the NUM PAIRS register 127 is greater than one, control passes to step 151 that will utilize the default MULTIPLE INSTANT SPLIT command. Otherwise control transfers to step 152 that modifies the command from

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the default to a conventional split command. After this operation the INSTANT SPLIT procedure and control returns to step 153 in FIG. 6 that determines whether any errors occurred during this process. If an error occurs, step 154 generates a message.